

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the captioned patent application.

Listing of Claims

Claims 1-52. (Canceled)

Claim 53. (Previously Presented) A printed circuit board comprising:

- a printed wiring board;
- at least one component mounted on said printed wiring board;
- an EMI shield conformingly disposed on surfaces of at least one region on the top and bottom of said printed circuit board; and
- an electrically conductive spring clip secured around an edge of said printed circuit board to electrically couple said EMI shield disposed on said top and bottom surfaces of said printed circuit board.

Claim 54. (Previously Presented) The printed circuit board of claim 53, further comprising:

- a top and bottom ground strip disposed on top and bottom surfaces, respectively, of said printed wiring board proximate to an edge of said printed wiring board;
- wherein said EMI shield comprises a conductive coating and a dielectric coating interposed between said conductive coating and selected portions of each said printed circuit board region, wherein said conductive coating is adhered to at least a portion of said ground strips; and
- wherein said spring clip is secured around said printed circuit board edge so as to contact said top and bottom ground strips.

Claim 55. (Previously Presented) The printed circuit board of claim 53, wherein said EMI shield comprises a conductive coating and a dielectric coating interposed between said conductive coating and selected portions of each said printed circuit board region; and

- wherein said spring clip is secured around said printed circuit board edge so as to contact said conductive coating of said EMI shield disposed on said top and bottom of said printed circuit board.

Claim 56. (Previously Presented) The printed circuit board of claim 53, wherein said spring clip is a unitary device.

Claim 57. (Previously Presented) The printed circuit board of claim 53, wherein said spring clip is removably secured to said printed circuit board.

Claim 58. (Previously Presented) The printed circuit board of claim 53, wherein said spring clip is constructed and arranged to be manually secured to said printed circuit board.

Claim 59. (Previously Presented) The printed circuit board of claim 53, wherein said EMI shield comprises:

- a conductive coating; and
- a dielectric coating interposed between said conductive coating and selected portions of each said printed circuit board region.

Claim 60. (Previously Presented) The printed circuit board of claim 53, wherein said one or more regions of said EMI shield are physically contiguous on each of the top and bottom sides of the printed circuit board.

Claim 61. (Previously Presented) The printed circuit board of claim 59, further comprising:

- a plurality of ground pads mounted in said printed wiring board, wherein said conductive coating of at least one of said printed circuit board regions is connected electrically to at least one of said plurality of ground pads;
- a ground plane disposed in said printed wiring board; and
- a plurality of ground vias each connected to said ground plane and to one or more of said plurality of ground pads.

Claim 62. (Previously Presented) The printed circuit board of claim 53, wherein said printed circuit board further comprises:

a shielded connector mounted on said printed wiring board, said shielded connector connected to a shielded cable through which signals travel; and

a plurality of ground pads mounted in said printed wiring board so as to substantially surround said shielded connector,

wherein said conductive coating electrically connects at least one of said plurality of ground pads to a shield of said shielded connector.

Claim 63. (Previously Presented) The printed circuit board of claim 53, wherein said printed wiring board comprises surface traces, wherein said dielectric coating and said surface traces are constructed and arranged such that said surface traces have a desired characteristic impedance.

Claim 64. (Previously Presented) The printed circuit board of claim 59, wherein said dielectric coating has a combination of adhesion and viscosity that enables said dielectric coating to be applied with atomization spray techniques so as to access and adhere to exposed surfaces of said one or more regions of the printed circuit board.

Claim 65. (Previously Presented) The printed circuit board of claim 59, wherein said dielectric coating is comprised of a plurality of successively-applied layers of dielectric material.

Claim 66. (Previously Presented) The printed circuit board of claim 59, wherein said dielectric coating is thixotropic.

Claim 67. (Previously Presented) The printed circuit board of claim 59, wherein said dielectric coating has a viscosity of at least 45" #2 Zahn Cup (full body).

Claim 68. (Previously Presented) The printed circuit board of claim 59, wherein said dielectric coating has an adhesion that enables it to pass the ASTM D-3359-83 Method A Tape Test using a 1" (25 mm wide) semi-transparent pressure-sensitive tape with an adhesion strength of 25-70 ounces per inch when tested in accordance with ASTM Test Method D-3330.

Claim 69. (Previously Presented) The printed circuit board of claim 59, wherein said conductive coating has a combination of adhesion and viscosity that enables said conductive coating to be applied with atomization spray techniques so as to access and adhere to said dielectric coating and exposed surfaces of said one or more regions of the printed circuit board.

Claim 70. (Previously Presented) The printed circuit board of claim 59, wherein said conductive coating has a viscosity of 10-40" Zahn cup #3.

Claim 71. (Previously Presented) The printed circuit board of claim 59, wherein said conductive coating has an adhesion that satisfies ASTM 5B rating.

Claim 72. (Previously Presented) The printed circuit board of claim 59, wherein said conductive coating has a thickness of 1.1 ± 0.2 mils.

Claim 73. (Previously Presented) A printed circuit board comprising:
a printed wiring board with an internal ground plane;
at least one component mounted on said printed wiring board;
a top and bottom ground land disposed on top and bottom surfaces, respectively, of said printed wiring board and connected to said ground plane;
an electrically continuous EMI shield conformingly adhered to surfaces of a region on the top and bottom of said printed circuit board, comprising a conductive coating; and a dielectric coating interposed between said conductive coating and selected portions of each said printed circuit board region,
wherein said conductive coating is applied to at least a portion of said top and bottom ground strips.

Claim 74. (Previously Presented) The printed circuit board of claim 73, further comprising:
at least one ground via connecting said ground lands to said ground plane.

Claim 75. (Previously Presented) The printed circuit board of claim 73, wherein said ground lands are disposed proximate to a same edge of said printed wiring board, and wherein said printed circuit board further comprises:

edge plating disposed on said printed wiring board edge, said edge plating being connected to said ground lands.

Claim 76. (Previously Presented) The printed circuit board of claim 75, wherein said edge plating edge plating is connected to said ground plane.

Claim 77. (Previously Presented) The printed circuit board of claim 75, wherein said ground lands are ground strips.

Claim 78. (Previously Presented) The printed circuit board of claim 77, wherein said ground strips are substantially parallel to said printed wiring board edge.

Claim 79. (Previously Presented) The printed circuit board of claim 73, wherein said ground lands are disposed proximate to a same edge of said printed wiring board.

Claim 80. (Previously Presented) The printed circuit board of claim 79, further comprising:
at least one electrically conductive spring clip secured around said printed wiring board edge so as to contact said top and bottom ground lands.

Claim 81. (Previously Presented) The printed circuit board of claim 80, wherein said at least one spring clip is a unitary device.

Claim 82. (Previously Presented) The printed circuit board of claim 80, wherein said at least one spring clip is removably secured around said printed wiring board edge.

Claim 83. (Previously Presented) The printed circuit board of claim 80, wherein said at least one spring clip is constructed and arranged to be manually secured to said printed circuit board.

Claim 84. (Previously Presented) The printed circuit board of claim 73, wherein said EMI shield adheres to the surfaces of a plurality of printed circuit board regions on said top and bottom of said printed circuit board.

Claim 85. (Previously Presented) The printed circuit board of claim 73, wherein said printed circuit board further comprises:

- a plurality of ground pads mounted in said printed wiring board, wherein said conductive coating of at least one of said printed circuit board regions is connected electrically to at least one of said plurality of ground pads;

- a ground plane disposed in said printed wiring board; and

- a plurality of ground vias each connected to said ground plane and to one or more of said plurality of ground pads.

Claim 86. (Previously Presented) The printed circuit board of claim 73, wherein said printed circuit board further comprises:

- a shielded connector mounted on said printed wiring board, said shielded connector connected to a shielded cable through which signals travel; and

- a plurality of ground pads mounted in said printed wiring board so as to substantially surround said shielded connector,

- wherein said conductive coating electrically connects at least one of said plurality of ground pads to a shield of said shielded connector.

Claim 87. (Previously Presented) The printed circuit board of claim 73, wherein said printed wiring board comprises surface traces, wherein dielectric coating and said surface traces are constructed and arranged such that said surface traces have a desired characteristic impedance.

Claim 88. (Previously Presented) The printed circuit board of claim 73, wherein said dielectric coating is thermally conductive.

Claim 89. (Previously Presented) The printed circuit board of claim 73, wherein said dielectric coating has a combination of adhesion and viscosity that enables said dielectric coating to be applied with atomization spray techniques so as to access and adhere to exposed surfaces of said one or more regions of the printed circuit board.

Claim 90. (Previously Presented) The printed circuit board of claim 89, wherein said conductive coating has a combination of adhesion and viscosity that enables said conductive coating to be applied with atomization spray techniques so as to access and adhere to said dielectric coating and exposed surfaces of said one or more regions of the printed circuit board.

Claim 91. (Previously Presented) A printed circuit board comprising:

- a printed wiring board;
- a component detachably mountable on said printed wiring board;
- a conformal EMI shield coating surfaces of said printed circuit board including said component; and
- a coupling mechanism for electrically connecting said conformal EMI shield coating said component with said conformal EMI shield coating said printed circuit board when said component is mounted on said printed wiring board.

Claim 92. (Previously Presented) The printed circuit board of claim 91, wherein said coupling mechanism comprises:

- a first connector mounted on the printed wiring board and electrically coupled to said EMI shield coating said printed circuit board;
- a second connector, matable with said first connector, integral with said detachable component and electrically coupled to said EMI shield coating said component.

Claim 93. (Previously Presented) The printed circuit board of claim 92, wherein said first connector is a shielded connector comprising a shield electrically coupled to said EMI shield coating said printed circuit board, and wherein said second connector is a shielded connector comprising a shield electrically coupled to said EMI shield coating said component.

Claim 94. (Previously Presented) The printed circuit board of claim 92, wherein said printed circuit board further comprises:

a plurality of ground pads mounted in said printed wiring board so as to substantially surround said first shielded connector,

wherein said EMI shield is electrically connected to said plurality of ground pads.

Claim 95. (Previously Presented) The printed circuit board of claim 91, wherein said printed circuit board further comprises:

a plurality of ground pads mounted in said printed wiring board, wherein said conductive coating of said printed circuit board region is connected electrically to at least one of said plurality of ground pads;

a ground plane disposed in said printed wiring board; and

a plurality of ground vias each connected to said ground plane and to one or more of said plurality of ground pads.

Claim 96. (Previously Presented) The printed circuit board of claim 92, wherein said printed wiring board comprises surface traces, wherein said dielectric coating and said surface traces are constructed and arranged such that said surface traces have a desired characteristic impedance.

Claim 97. (New) A printed circuit board comprising:

- a printed wiring board with an internal ground plane;
- at least one component mounted on said printed wiring board;
- an electrically continuous EMI shield conformingly adhered to top and bottom surfaces of said printed circuit board, comprising a conductive coating; and a dielectric coating interposed between said conductive coating and said printed circuit board surfaces;

and

a coupling mechanism that electrically couples said EMI shield adhered to said top surface of said printed circuit board with said EMI shield adhered to said bottom surface of said printed circuit board.

Claim 98. (New) The printed circuit board of claim 97, wherein said coupling mechanism comprises:

a top and bottom ground land disposed on top and bottom surfaces, respectively, of said printed wiring board and connected to said ground plane, wherein said EMI shield is applied to at least a portion of said top and bottom ground lands.

Claim 99. (New) The printed circuit board of claim 98, wherein said ground lands are disposed proximate to a same edge of said printed wiring board, and wherein said printed circuit board further comprises:

edge plating disposed on said printed wiring board edge, wherein said edge plating is electrically coupled to said ground lands.

Claim 100. (New) The printed circuit board of claim 98, wherein said ground lands are ground strips.

Claim 101. (New) The printed circuit board of claim 100, wherein said ground strips are substantially parallel to said printed wiring board edge.

Claim 102. (New) The printed circuit board of claim 97, wherein said ground lands are disposed proximate to a same edge of said printed wiring board.

Claim 103. (New) The printed circuit board of claim 102, further comprising:
at least one electrically conductive spring clip secured around said printed wiring board edge so as to contact said top and bottom ground lands.

Claim 104. (New) The printed circuit board of claim 103, wherein said at least one spring clip is a unitary device.

Claim 105. (New) The printed circuit board of claim 103, wherein said at least one spring clip is removably secured around said printed wiring board edge.

Claim 106. (New) The printed circuit board of claim 103, wherein said at least one spring clip is constructed and arranged to be manually secured to said printed circuit board.

Claim 107. (New) The printed circuit board of claim 97, wherein said printed circuit board further comprises:
a plurality of ground lands disposed on said top and bottom surfaces of said printed wiring board, wherein said EMI shield is electrically connected to at least one of said plurality of ground lands; and
a plurality of ground vias each connected to said ground plane and to one or more of said plurality of ground pads.

Claim 108. (New) The printed circuit board of claim 97, wherein said printed wiring board comprises surface traces, wherein said EMI shield comprises a dielectric coating, wherein said surface traces are constructed and arranged such that said surface traces have a desired characteristic impedance.

Claim 109. (New) The printed circuit board of claim 97, wherein said dielectric coating is thermally conductive.

Claim 110. (New) The printed circuit board of claim 97, wherein said dielectric coating has a combination of adhesion and viscosity that enables said dielectric coating to be applied with atomization spray techniques so as to access and adhere to exposed surfaces of said one or more regions of the printed circuit board.

Claim 111. (New) The printed circuit board of claim 110, wherein said conductive coating has a combination of adhesion and viscosity that enables said conductive coating to be applied with atomization spray techniques so as to access and adhere to said dielectric coating and exposed surfaces of said one or more regions of the printed circuit board.

Claim 112. (New) The printed circuit board of claim 97, wherein said printed circuit board further comprises:

- a shielded connector mounted on said printed wiring board, said shielded connector connected to a shielded cable through which signals travel; and

- a plurality of ground pads mounted in said printed wiring board so as to substantially surround said shielded connector,

- wherein said conductive coating electrically connects at least one of said plurality of ground pads to a shield of said shielded connector.